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MAGE Multi-modal retinal imaging for investigating neurovascular health

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The PREVENT Dementia study [1] is capturing 2D images of the retina using four modalities (ultra-widefield, colour fundus photography, scanning laser ophthalmoscopy, and optical coherence tomography angiography) to gain insight into neurovascular health through the eye. Separately, these modalities reveal different aspects of the retina's vascular system. Together, through computational colocalisation and segmentation (performed algorithmically using *in-house* techniques), they build a comprehensive map of small blood vessels that are alike in both composition and structure to those in the brain. Irregular structural and functional change to the retinal vasculature is thought to be indicative of neurovascular dysfunction [2]. Generating new insights into neurovascular



Fig. 1 Multi-modal retinal imaging for investigating neurovascular health. Ultra-wide field (background image), colour fundus photograph (circular image), scanning laser ophthalmoscopy (large square), optical coherence tomography angiography (small square).

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dysfunction through the eye could help develop a better understanding of conditions affecting the brain such as dementia (Fig. 1).

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COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

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